434 Niagara BULLETIN



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General Meetings

3rd Saturday of each month at

Welland Optimist Club, 38 Patterson Ave., Welland, ON L3B 2C4 until further notice. Due to present Covid restrictions future meeting dates will be advised by email and telephone.

We proudly promote the glorious tradition of the RCAF 434 Wing Board of Directors 2020-2021

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ROYAL CANADIAN LEGIONS

Welland	Branch 4	Office	905-734-3611
Port Colborne	Branch 56	Canteen Hall	905-734-6601 905-834-9512
Fort Erie	Branch 71	Hall	905-871-8682
Fonthill	Branch 613	Hall	905-892-6293

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Royal Canadian Air Force Association of Canada

Chairman's Report March 2023

Il will open this report with Congratulations to both our first VP, Capt. Retd. Julie Sheppard and also to member Jim Hutchinson.

On February 15/2023 Lt. Col. O'Leary presented Julie with the third clasp for her CD. Julie has a long standing career (42 years plus) with Air Cadets both here in Welland and also Port Colborne performing duties in various positions. I feel this recognition is well deserved, thank Julie for your service.

Member Jim Hutchinson was presented with The Queens Jubilee Medal. This is also a well-deserved award. Jim as a civilian also works tirelessly with the Air Cadets and has performed Master of Ceremonies Duties for our Wing at our Battle of Britain ceremony and our annual Awards dinner. He also has his own aircraft, flying frequently (time & weather permitting) out of Dorothy Rungeling Airport here in Welland.

On behalf of 434 (Niagara Peninsula) Wing Congratulations & thanks to you both.

Looking ahead into 2023, we will have a Board election coming up and under the new format if you would like to put your name forward to stand for a position on the Board., a "Letter of Intent" is now required. George will send as an attachment with the Board meeting minutes with details.

Our 2024, 13 month Calendar has gone to print as I type this report, many thanks to all who found us sponsors. If you think you might want to reserve a copy please contact one of the Board members, we did not have as many printed as in past years.

We are looking holding a Wing BBQ possibly at Welland Airport or Chippawa Park, if this is a possibility Wing members and families could attend, further details as our enquiries unfold. Apart from Awards Dinner and Christmas we need a get together as a group let us know your feelings on this.

In review of my last report, I failed to welcome our new member David Boyd, so welcome aboard David it's nice to have you join our group & apologies for my remiss.

I find it necessary to remind all members of the following. If when George puts out a reminder regarding meetings he always requests that if you are unable to attend to let him know. This allows us the ability to know how may are able to attend it also allows us to determine whether or not a meeting should be cancelled if insufficient members and we do not have a quorum. please give your co-operation in this matter.

Bill Heron (Chairman)

Per Ardua Ad Astra

Air Cadets

87 Eagle Squadron, Meeting of Wednesday, February 15th, 2023





Lt. Col. O'Leary Inspects the Squadron



434 Wing 1st VP, Capt. (Ret'd) Julie Sheppard receives the third clasp for her CD



A round of applause for Julie





Julie is joined by her nieces for the presentation

February 20, 1959, Black Friday





Crawford Gordon, President



Jan Zurakowski in the cockpit of the AVRO Arrow 1958



Fred Smye, VP & Gen'l Manager

Avro had big plans for the future of technical aviation. Its team of engineers was known for their "out of the box" designing, and had drawn up ideas for moon rovers, spaceships and other advanced aircrafts. The company was on the cutting edge of the industry - until the program was axed by Diefenbaker in 1959. The reasoning behind the Dief's decision is simple: the cost. The total bill for the program was creeping upwards of \$3 billion. But that reasoning is easily disputed, as critics say the cost for cancelling the program equaled the cost of keeping it running. Add in the cost of outsourcing fighter planes and buying used jet planes from the US, and that excuse does seem rather feeble. Between 1982 and 1988 alone, the Canadian government paid \$5.2 billion to the US for fighter jets.

While the cancellation of the Arrow program may have saved some money in the short run, it costs were bountiful, including the loss 15,000 direct jobs and thousands more indirect jobs. It also caused one of the biggest brain drains of Canadian talent, with the majority of the Avro engineers relocating to the United States to work on their space and aviation programs. If Canada had kept the program running, it could have made the country leaders in aerospace and aviation engineering and technology, but now we will never know what could have been.

Above Edited from Leah Scheteil, 2018

After his retirement from Avro, **Jan Zurakowski** sought to dismiss groundless rumours that "no one wanted to buy the Arrow." "An airplane is not sold during the experimental test phase but only after its successful conclusion and in the case of military aircraft, only after successful incorporation into domestic combat units where their value has been confirmed."

A.V. Roe Canada Ltd.

In 1943, Roy H Dobson, the managing director of A.V. Roe, Manchester and a director of the Hawker Siddeley Group, visited Canada to review the Lancaster production at Malton as well as aircraft industry as a whole. He formed the opinion that the postwar activities of the Hawker Siddeley Group should be focused in Canada. He envisioned an aircraft industry complete with design and technical facilities. During his visit preliminary discussions took place with the Government for takeover of the management of Victory Aircraft. In the spring of 1945, Dobson returned to Canada in an effort to enter into some form of arrangement for the takeover of Victory Aircraft. The war in Europe had ended but the war with Japan continued. Victory had some Lancasters to complete and was changing over production to the larger Lincoln for operations in the Far East.

With the end of the war in Europe and the surrender of Japan on September 2, 1945, the aircraft industry including its suppliers virtually collapsed in Canada, the US and UK. In this background Dobson returned to Canada in November 1945 with a signed agreement for the takeover of Victory Aircraft. The Government had assumed that he would back out of the agreement since its foundation, the production of the Lancaster and the Lincoln, had disappeared.

A.V Roe Canada Ltd. was formed and took over the operations and facilities of Victory as of December 2, 1945.





Dobson had a vision., he had unbounded faith in Canada, in Canadians and in their future. He saw A.V. Roe Canada Ltd. With its energy and enthusiasm leading the world in the limitless future of jet flight.

The cornerstone of A.V. Roe Canada Ltd. Policy was Canadian design and development backed by vast engineering experience and facilities of the Hawker Siddeley Group in the U.K.

By way of background, on October 10, 1939, Canada announced the formation of the Joint Air Training Plan to be undertaken in Canada. Under the terms, the U.K. was to supply the twin engine Avro Anson as part of the primary trainers. While the U.K. did supply the trainers, by the spring of 1940 it was evident that the U.K. could not supply enough Ansons. The Canadian government formed Federal Aircraft Ltd whose first task was to re-engineer the Anson on the basis of engines, propellers and equipment from the U.S. The complete manufacture and assembly of the aircraft was farmed out along with hundreds of contracts for fabrication of components and parts, to Canadian companies.

A second problem was that the British arranged with the U.S. Government to act for all Commonwealth countries for war materials required from the U.S. As the manufacture of aircraft progressed in Canada, it meant for example, if parts were required from the U.S for the manufacture of a Lancaster, the request had

A.V. Roe Canada Ltd. continued

To go to the British Air Ministry and then be made to the U.S.

Air Marshal W.A. Curtis, CAS of the RCAF

Among his wartime assignments, he was a senior officer assigned attached to the RCAF headquarters in London where he was involved in the allocation of aircraft and supplies by the U.K. Air Ministry. He found he could not always obtain the equipment which was required by the RCAF squadrons. His wartime experience in having the RCAF dependent upon others led to his dedication to independence for the Canadian Air Force in future. As Chief of the Air Staff, he fought for and gained this independence. He was responsible for the rebirth of the RCAF, and for establishing its place of supremacy in the defence forces and one of the great air forces in the western world.

Upon his retirement from the RCAF, he joined the board of directors of A.V. Roe Canada Ltd., believing in this way he might best continue to serve the interests of the air force.



Avro Canada Ltd. Growth

Orenda Engines—the most powerful in the world

In 1942 the National Research Council of Canada sent two of their researchers to the U.K. to survey work on aerodynamics. In May 1943 they published their report on Jet Propulsion in the U.K. One of their recommendations was that the Government should form their own engine company as soon as possible and accordingly **Turbo Research Ltd.**, a crown corporation, was set up in Leaside. Work started on the first Canadian designed jet engine, later called the Chinook, with 2,600 lbs thrust. In 1946 the Government sold Turbo Research to Avro and the facility was moved to Avro's plant in Malton with most of its staff and was designated as the Gas Turbine Division. In the summer of 1946, work was started on the design of a 6,500 lbs thrust jet engine to be called the Orenda which was required for the new CF-100. The engine first ran in February 1949 and when production started in late fall1949, it was the most powerful engine in the world. Almost 4,000 engines were produced by the end of production in 1958.

Orenda engines were employed in the CF-100 in Canada and in the Belgian Air Component. They were employed in the Canadair Sabre which was also sold to the West German, South African, Colombian and Pakistani Air Forces.

Orenda Iroquois—again, the most powerful engine in the world

Asked to produce an engine for the Arrow 105 project, Orenda developed the Iroquois. The prototype was completed in December 1954 and testing rated it at 19,250lbf and 25,000lbf with the afterburner, making it the most powerful jet engine in the world. The Iroquois program was cancelled on February 20, 1959 along with the Arrow. Orenda would continue to manufacture engines after Black Friday.

Reorganization

It was decided that Avro Canada Ltd. Would become the holding company for two separate companies which were formed in December 1954, **Avro Aircraft Ltd** and **Orenda Engines Ltd**.

A.V. Roe Canada Ltd. continued

Aircraft Produced by Avro Canada



CF-100 Canuck



Avro Arrow



Avro Jetliner, first jet passenger plane in North America



Avro Canada ceased operations in 1962. It was founded on December 2, 1945 and by 1959 it was the third-largest company in Canada, one of the largest 100 companies in the world, and directly employed over 50,000. It had become a major integrated company with diverse holdings. Avro employees had the ability to think outside the box, to do what could not be done and be the best. For Canadians it represented national pride, technological superiority, self esteem, independence and security.

Canada's Future As A World Leader in Aerospace



Field of Broken Dreams

Photo by Bruce Forsyth

An empty field of weeds where once Avro Canada stood best sums up Canada's future as a leader in aerospace at present. Avro Canada was led by brilliant leaders who shared a vision and believed in Canada, the Canadian people and the need for an independent RCAF.

The Avro story will always be compelling for the generation who lived during this period. It involved faith in Canada, in Canadians' abilities and the desire to see the RCAF with the most advanced fighter jet in the world, designed and built in Canada. With the number of books and articles that continue to be written about the Arrow, it is clear that it will not be forgotten.

A.V. Roe Canada Ltd. continued

In 1962, Orenda Engines was transferred to Hawker Siddeley Canada and continued as a major repair and overhaul business. In the 1980s Magellan Aerospace purchased Orenda and operated from the historic Orenda building until 2018 when it was demolished and a new, modern facility was constructed on the sacred Orenda lands. Magellan was formed in 1980's from the assets of the Canadian branch of Fleet Aircraft in Fort Erie and has expanded through acquisitions in Canada, USA and the U.K.

On January 9, 2023, Minister of National Defence, Anita Anand, announced the purchase of the 88 flying turkeys. On January 10, 2023, Magellan issued an announcement, the relevant part of which is below.



FOR IMMEDIATE RELEASE

MAGELLAN AEROSPACE APPLAUDS F-35 AIRCRAFT ANNOUNCEMENT BY CANADIAN GOVERNMENT

Toronto, Ontario – 10 JANUARY 2023 – Magellan Aerospace Corporation ("Magellan") applauds the Government of Canada's announcement that it has reached a final agreement to acquire 88 F-35 fighter jets for the Royal Canadian Air Force. By selecting the F-35, Canada is continuing a relationship that was established between the original partnering nations for the development of the F-35.

The announcement secures significant benefits to the Canadian aerospace industry. To date, Canadian companies have been awarded high value contracts as part of the F-35 global supply chain amounting to \$2.7 billion USD as a result of Canada's partnership in the F-35 program. The Canadian economy is anticipated to benefit by more than \$16.9 billion CAD over the life of the program. The actions taken by the government on the F-35 program will continue to deliver economic and technical advantages to Canada for decades to come.

As an international partner on the program, Canada's aerospace industry has had many first-of-a-kind opportunities to work directly on F-35 production and provided companies the leverage to adopt some of the most advanced technologies in the world. The formal F-35 selection secures Canadian industry's investment in the program and is expected to facilitate access to future sustainment opportunities.

Magellan sends congratulations to the Lockheed Martin team. Magellan has provided complex structural assemblies and other components for the global F-35 program since the initial system design and development phase.

Magellan is excited to continue its participation on the F-35 program that includes eight international partners — the U.S., United Kingdom, Italy, Netherlands, Australia, Norway, Denmark, and Canada. Nine Foreign Military Sales customers are also procuring and operating the F-35 — Israel, Japan, South Korea, Poland, Belgium, Singapore, Finland, Switzerland, and Germany.

About Magellan Aerospace Corporation

Magellan Aerospace Corporation is a global aerospace company that provides complex assemblies and systems solutions to aircraft and engine manufacturers, and defence and space agencies worldwide. Magellan designs and manufactures aeroengine and aerostructure assemblies and components for aerospace markets, advanced proprietary products for military and space markets, and provides engine and component repair and overhaul services worldwide. Magellan is a public company whose shares trade on the Toronto Stock Exchange (TSX: MAL), with operating units throughout North America, Europe, and India.

Janusz "Zura" Zurakowski

Chief Development Pilot for Avro Canada "One of the Greatest Test Pilots In Aviation History"



Jan was born on September 12, 1914, the third child of a Polish family living in the Ukraine. The end of WW1 in 1918 saw the creation of a free Poland. The Treaty of Riga, signed with Russia in 1921 established the eastern border of Poland. All lands to the east of the border, which was where Jan was living with his family, remained in Russian hands. His parents knew it was time to go to Poland. The family, consisting of their five children (two were born after Jan) and a young cousin, set out in a farm cart pulled by two horses. Their trip lasted three weeks and covered 600 kilometres. Often they traveled at night. A guide was hired near the border who knew where to get the family across into Poland during the night. After traveling to Warsaw, Jan's father, a medical doctor, obtained an appointment as district doctor in Garwolin, a district town on the railway line between Warsaw and Lublin.

In Garwolin, the family grew once again as a younger brother was born. Jan saw his first airplane here as it flew low along the roadway and he excitedly chased after it thinking it was going to land which it never did.

Five years later, in 1926, Jan's father was transferred to Lublin and given the post Volvodship Health Inspector. Jan was entered in second grade at the high school which had an aircraft modelling club. Encouraged by his older brother Bonek, both brothers competed to build the best flying model aircraft. At the regional flying craft show, Jan won first prize which was a short flight on an aircraft starting off from the aircraft factory near Lublin. The building of models encouraged Jan in his desire to fly on a real plane.

In 1933 while on vacation near Kielce (southwest of Lublin) Jan enrolled in glider courses at the nearby gliding school. Upon graduation from high school Jan volunteered for the Reserve Airforce Academy at Deblin (north of Lublin). Deblin was the principal centre for air force training in Poland. Initially he had to train at the Infantry School at Tomaszow Lubelski (south of Lublin). By January 1935 Jan was back in Deblin with the Officer Cadet Air Training Program Reserve. After graduation Jan enrolled in the Air Force Academy and was admitted to second year because of his experience. At a gathering at his parents home for Christmas 1935, Jan met Hanka, a young girl who refused to dance with him, but later was to become his wife.

By May he was finally learning to fly in a plane, the RWD 8. In October 1937 graduation ceremonies for the Polish Airforce Academy were held and promotions were made. Jan reported to the 6th Airforce Regiment at Lwow as a Second Lieutenant. His squadron was assigned to patrol the eastern border from Polesie to Romania flying PZL P-11 aircraft.



RWD 8



PZL P-11

Janusz "Zura" Zurakowski continued

Chief Development Pilot for Avro Canada "One of the Greatest Test Pilots In Aviation History"

In November 1938 Jan was given a two week furlough and he headed to the glider Academy at Bezmiechowa. Often not being able to get a glider during daytime, he took to flying in the evenings. During one evening flight which extended into late at night, he became disoriented and a wind swept him into the slope of a hill. Somehow he made his way back to the school in the morning but was suffering from a complete memory loss, not knowing where the glider was or how he got back. The glider was found hanging from a spruce tree. Jan was sent to a hospital in Przemsyl where he was diagnosed with an 8-cm long fracture of the skull. When he regained his memory he returned to flying with his Squadron in early 1939. By March his medical report from Przemsyl had reached the Aviation Medical Centre in Warsaw and he was ordered to report there immediately. From Warsaw he was sent to Krynica "for treatment." While in Krynica, Hitler occupied Czechoslovakia and upon returning to his regiment, Jan was sent to the airfield at Ulez outside of Deblin, where he was to be an instructor on a fighter airplane course. In August 1939, Jan managed to meet up with Hanka in Naleczow (NW of Lublin) where they spent some time together.

On September 1, 1939, Hitler invaded Poland. On September 2, Jan took off from the Ulez airbase in a PLZ P-7 for his first encounter with the enemy, a formation of Dornier 17 light bombers. Jan was in the military at a training center which was not a combat unit. A few days later an order came down for all trained personnel not in a combat unit to make their way to make their way to Kuty on the Romanian border and then enter Romania. In Romania Jan learned that trained personnel would be transported by sea to France.



PLZ P-7 armed fighter planes

On October 15th,1939, 200 Polish pilots and 600 aircraft technicians left the port of Balchik headed for Marseille via Beirut. A few days later Jan learned that he was being sent to England which was upsetting since he did not speak a word of English. Over 8,000 Polish aviation personnel had arrived in France after the September invasion of Poland. This included 2,000 technicians and 300 pilots who were sent to Britain in December 1939. At this time Britain did not plan to employ the pilots in the defence of Britain but they would create a few Polish bomber squadrons.

After the fall of France, Britain, being short of pilots, decided they needed the help of the Polish pilots for full operational flying. Jan was trained in a Spitfire and soon found himself in a newly formed Polish squadron in Warmwell. Several days later, Jan was transferred to 234 Squadron. On August 15, 1940 RAF 234 Squadron was posted from RAF St Evan in Cornwall to RAF Middle Wallop as part of No. 10 Group RAF to defend Portsmouth, Southampton and other targets along the south coast.

For the Germans, August 13, 1940 was the start of the Battle of Britain. On August 15th, , Messerschmitts started bombing the Middle Wallop airfield. Spitfires took off in haphazard order. Jan was able to take off for his first air battle. In his Spitfire, he successfully shot down an Me 110, seeing it crash on the Isle of Wight.



Messerschmitt Bf 110

Janusz "Zura" Zurakowski continued

Chief Development Pilot for Avro Canada "One of the Greatest Test Pilots In Aviation History"

On August 24th, a force of German Junkers 88 bombers were approaching Portsmouth. This time the Spitfires lifted off in regulation form, in groups of three. At 20,000 feet while engaged in an attack, Jan's Spitfire was damaged and went into a shallow tailspin. He had to jump, with his plane circling above him. He landed on the Isle of Wight with his damaged Spitfire crashing 50 feet away. On the afternoon of 7 September the Luftwaffe made its first heavy daylight raid on London. 234 Squadron was amongst those scrambled to intercept the enemy bomber force as it retired. During the engagement the 234 Squadron was decimated and was posted back to St Eval to be rested and rebuilt. Jan was posted to Squadron 609 in Middle Wallop.

For his contribution during the Battle of Britain, he twice received the Cross of Valour and was mentioned in a dispatch for distinguished service.

In April 1942 Jan was appointed Squadron Commander in Polish Squadron 306 in Church Stanton. In June he was promoted to commanding officer of Squadron 316 in Heston. In Autumn 1942 he was promoted to the rank of Captain and received his second British commendation for excellent service. In July 1943 he was promoted to 2nd in command of the Northolt Wing, consisting of several squadrons. Late in 1943, Jan was transferred to the Fighter Command Headquarters in Stanmore near London.

In March 1944 Jan started studies at the Empire Test Pilots' School (ETPS) at Boscombe Down. The school's objective was to provide training and technical expertise for its students to perform experimental test flights on various aircraft types. After graduation from the ETPS and a short stint testing carrier based aircraft, Jan was assigned to testing the new jet propelled planes, the Vampire for which he conducted 140 experimental flights and the Meteor. Over the next two years he flight tested about 40 types of aircraft.

In the summer of 1947, Jan accepted a job as experimental pilot for Gloster Aircraft Co. Ltd. He left the military with the Polish rank of Major and the English rank of Squadron Leader. During his military career he had been awarded the Virtuti Militari Cross, the Cross of Valour 3 times and the British citation for Excellent Service four times.

Jan wrote to Hanka, now in Gdansk, asking her if she would join him in Britain to which she replied "she would." Plans were made to get her out from behind the Iron Curtain.







At Gloster, Jan was busy testing the new twin engine meteor jet fighter. In 1949 during a test of the Meteor with new engines he reached an altitude of 5 miles in 3 minutes which was a world record. In 1950 Jan established a speed record with the meteor on the London to Copenhagen route. Gloster then turned its attention to a new plane, the Javelin which Jan made 20 test flights on. Problems with the plane and the disregard of the problems by management led Jan to consider a change of employment.

Janusz "Zura" Zurakowski continued

Chief Development Pilot for Avro Canada "One of the Greatest Test Pilots In Aviation History"

<u>To Canada:</u> "A modern aviation industry had established itself in Canada and the thought of taking part in a growing industry in a young and vibrant country was interesting and appealing." He sent a letter to A.V. Roe which belonged to the Hawker Siddeley Group as did Gloster. He was immediately accepted with a request that he come to Canada as soon as possible because the new CF 100 was awaiting testing. On April 21, 1952, Jan with his wife Hanka and their sons, George and Mark, arrived at Dorval Airport. After a short flight to Toronto, Jan was at A.V. Roe in Malton the next day familiarizing himself with the CF-100 Mark 1. The Toronto Telegram announced Jan's arrival, describing him as "small and balding and looks anything but a test pilot."

In October, 1952, Jan began test flights on the CF-100 Mk 4. Advised that control of the plane above 90% of the speed of sound was not possible, after several flights, Jan reached the speed of sound, confirmed



Avro CF-100 Mark 4

by a sonic boom heard around Malton area. This was the first time a straight-winged aircraft had crossed the sound barrier without the aid of a rocket engine and it happened on a Canadian built airplane.

By 1953 Avro had begun work on a new interceptor aircraft that would be more than twice as fast as the CF-100. The complexity of the aircraft increased with the increase in speed and Avro managed to hire Wladystaw Potocki from the RAF to work with Jan on the new, more complex interceptor. On March 28, 1958 Jan arrived to take the Avro Arrow on it first flight. The work of thousands of employees would now be put to the test. The 35 minute flight occurred without difficulties from technical or flying points of view and Jan was hoisted on the shoulders of cheering friends.



Jan hoisted on shoulders after Avro Arrow first flight.

The rest of this story is well known history. Jan like other employees, was offered work in the US but both Hanka and Jan had no wish to leave Canada. Jan retired as a test pilot. Later in 1959, the Dept. of National Defence informed him that he had received the Trans-Canada McKee Trophy for 1958. In June 1959 Jan with his wife, met Queen Elizabeth II at a luncheon in Toronto.

Prior to the Arrow disaster Jan had purchased land near Barry's Bay on Lake Kamaniskeg. They planned to offer vacation rentals. They named their centre Kartuzy. Jan continued to receive recognition and awards in Canada, Poland and the US. In 1961, Jan's mother from Poland arrived at Kartuzy to visit. In 1970 Jan and Hanka visited Poland, a country Jan had not seen since 1939 along with many family members. Jan and Hanka's granddaughter, Krysia, a daughter of their son George, was a member of the Air Cadet Squadron in Ottawa. In 2000 she obtained her glider pilot's licence and in 2001 she obtained her single engine pilot's licence. Jan travelled to an airbase in Quebec to present Krysia with her pilot wings. Their son Mark and his wife Susan both have pilot's licence.

Jan continued to receive praise and recognition until he passed away at Kartuzy on February 9, 2004.

Italian industry signs up to GCAP future fighter project

Our Jan-Feb 2023 Bulletin outlined the collaboration between Britain, Italy and Japan to build a sixth generation fighter jet. Italian industrial partners officially signed up to the **Global Combat Air Programme** (GCAP) January 26, 2023.

Leonardo, which heads GCAP development on behalf of Italian industry, announced the development, saying that the concept, assessment, and demonstration activities that will underpin Italy's participation in the programme are now under way.

"The team of Italian companies that will participate in the development of the new GCAP have signed a contract to support the Italian Ministry of Defence (MoD) in the programme's new concept and assessment phase and related demonstration activities," Leonardo said, adding that it is joined by Elettronica, Avio Aero, and MBDA Italia in progressing technology



Next Generation Fighter Concept

development in support of the multinational project.

"We are developing a plan for technology and Industry that will move Italy's technology sector from the Typhoon era, the last major European combat air development programme, into a new era of combat air underpinned by sixth-generation capabilities," Elettronica CEO Enzo Beigni explained.

Work for the program will be facilitated alongside research centers, small-medium enterprises, universities, and start-ups to pool knowledge at a national level.

"The Italian government has allotted 6 billion euros (\$6.5 billion) for research and development in the program.



Eurofighter Typhoon
(To be replaced under the Global Combat
Programme with a sixth-generation fighter jet)

Birthdays

March
Rod Lee
Janice Bruneau



France's Directorate General of Armaments Receives First New Rafale

Dassault Aviation handed over a two-seat Rafale F3R fighter to the General Directorate of Armaments (DGA), aimed to replace ones purchased from the French Air Force by Greece.

The "B359" aircraft was delivered to the DGA on December 29 at the Dassault Aviation site in Mérignac (Gironde). This is the first Rafale produced by the company for the Ministry of the Armed Forces since 2018. Thirteen more Rafale jets will be delivered to the military this year.

Rafale assembly lines have been devoted to export, making it possible to deliver 100 of the 224 new aircraft ordered to date by six other countries.



Rafale B359 a two-seat or single-seat, twin engine aircraft with a top speed of 2,222 km/h and a range of 3,700 km.

The 152 aircraft, the two-seater Rafale B358, was delivered to the Air and Space Force in November 2018. Since then, deliveries for France have been interrupted in favor of exclusive manufacturing for the benefit of Rafale export customers. The two-seater Rafale B359 is the first plane of a batch of 40 planes which will be delivered by the end of 2025. The Rafale B359 incorporates hardware and software upgrades, directly resulting from developments carried out in the context of export. The Rafale B359 will be used to implement the F4.1 standard, currently being approved by the DGA technical authority with a view to its start of deployment in 2023.

Countries Purchasing Rafale

Egyptian Air Force (54)

Indian Air Force (26)

Qatar Air Force (36), with option for further 36 aircraft

Hellenic Air Force (24),

Croatian Air Force(12),

Indonesian Air Force (42),

United Arab Emirates Air Force (80)

Colombia (16).

Saudi Arabia currently negotiating to purchase 100—200

Replacement

Dassault announced the successor to the Rafale as the **New Generation Fighter** (as outlined in Jan-Feb 2023 Bulletin). This fighter aircraft under development by Dassault Aviation and Airbus Defence and Space, is to replace France's Rafale, Germany's Eurofighter Typhoon, and Spain's F/A-18 Hornet in the 2030–2040 timeframe.

Spain To Add 20 Additional Typhoons to Replace Hornets

In June, 2022 Eurofighter and its partner engine provider, Eurojet Turbo, received a US \$2.5 billion contract to build 20 more Typhoon fighters for Spain. The Spanish Eurofighter fleet will grow to 90 aircraft. The country's air force operates the Eurofighter from the air bases of Morón (11th Wing) and Albacete (14th Wing), securing Spain's territory and playing a key role at the heart of NATO in different Air Policing missions in the Baltics and more recently the Black Sea. With the arrival of these new aircraft, Spain will also equip a third base with Eurofighter jets, namely Gando on the Canary Islands, which is home to the 46th Wing.

The Spanish Eurofighter is assembled, tested and delivered at the Airbus Getafe site (Madrid, Spain) and its industrial footprint translates into more than 20,000 direct and indirect jobs in Spain. The main national defense and technological companies are involved in the manufacturing process. Airbus has also been working at Getafe in coordination with the Armament and Experimental Logistics Centre (CLAEX) of the Spanish Air Force to make various modifications such as the implementation of the new CM02+ software package for the Tranche 1 Eurofighters. The first of the new aircraft is due to be delivered in 2026, with industrial work secured until 2030.

COUNTRIES FLYING THE TYPHOON

ROYAL AIR FORCE, UNITED KINGDOM LUFTWAFFE, GERMANY AERONAUTICA MILITARE, ITALY EJERCITO DEL AIRE, SPAIN LUFTSTREITKRÄFTE, AUSTRIA ROYAL SAUDI AIR FORCE ROYAL AIR FORCE OF OMAN KUWAIT AIR FORCE QATAR AIR FORCE



Pentagon Orders Fix for all F-35's Globally

March 3, 2023

The military aircraft billed as America's latest and greatest fighter jet, the F-35, has been recalled globally to fix an engine problem that led to the grounding of some planes and the halting of new deliveries



The Pentagon's F-35 Joint Program Office (JPO) ordered the fix earlier this week, calling for all of the jets to be retrofitted within 90 days. The order applies to all of the nearly 900 F-35s that defense contractor Lockheed Martin has delivered worldwide, including those that have been grounded since a December 15 crash at the Naval Air Station Joint Reserve Base Fort Worth in Texas.

However, the JPO order applies to all F-35s, including those supplied to foreign militaries. The US has sold F-35s to such countries as Israel, Japan and the UK.

Some US lawmakers have estimated that it will cost \$1.3 trillion to sustain the nation's F-35 fleet, partly because of poor reliability. According to one estimate, only 30% of the jets, on average, are capable of performing all of their assigned tasks at any point in time.

US Representative Adam Smith, the top-ranking Democrat on the House Armed Services Committee, has called the F-35 program a "rathole."

Iran to Receive 24 Su-35 Aircraft in March

The Islamic Republic of Iran Air Force (IRIAF) will receive 24 Russian Su-35 jets, according to Shahriar Heidari, MP and member of country's National Security and Foreign Policy Commission.

Some Su-35s are anticipated to be housed at Tactical Air Base (TAB) 8 of the IRIAF, which is located in the Iranian city of Isfahan in the country's center.

Iran's last purchase of new fighters was in 1990s, when it received MiG-29 Fulcrum jets.

The lawmaker told local media that Tehran has also placed an order for a series of other military equipment from Russia, including air defense systems, missile systems and helicopters, most of which will be received soon.



Sukhoi Su-35, a single-seat, twin-engine, supermaneuverable aircraft with a top speed of 2,778 km/h and a range of 3600 km.

U.A.E. Buys 12 Chinese L-15 Combat Trainer Aircraft

A contract was signed on February 21st whereby the UAE will purchase 12 L-15 advanced trainer aircraft produced in China with the option for 36 additional aircraft of the same type in the future. The L-15 is a new generation, light combat/ training aircraft with aerial refueling capability that can be used in air and ground attacks and can help train aviators to fly fourth and fifth generation fighter jets.

Developed by AVIC's Hongdu Aviation Group in Nanchang, Jiangxi province, the L-15 has two engines, a streamlined aerodynamic design and



Hongdu twin-engine, two seat combat trainer

integrated avionics. It can be equipped with an advanced fire-control radar and multiple types of munitions including midrange air-to-air missiles, precision strike bombs and anti-ship cruise missiles.

The purchase of the L-15 is significant because this is the first time the United Arab Emirates, a traditional US ally, has purchased a Chinese fixed-wing aircraft. The acquisition comes amidst differences between the UAE and the US over UAE's intention to procure F-35 jets with Washington. Abu Dhabi had broken off negotiations with Washington, citing "difficult conditions" attached to the purchase.

December 2021 saw the UAE and France sign a \$19bn arms deal that will see the Gulf state acquire 80 Rafale fighter jets and 12 military helicopters.

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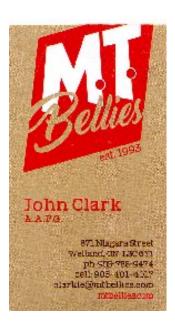
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